

Course Timeline

DAY ONE

DAY ONE	50 minutes
Course Launch	

ADDITIONAL MATERIALS

MYSTATWAY	
Login Instructions	10 minutes
PRODUCTIVE PERSISTENCE	
Syllabus Follow-Up Activity	20 minutes

MODULE 1

LESSON 1.1.1		
The Statistical Analysis Process		1 hour 40 minutes
LESSON 1.1.1 EXTENSION		
Populations, Samples and Subjects and Mindset Activity		50 minutes
LESSON 1.1.2		
Samples, Populations, and Types of Statistical Studies		1 hour 40 minutes
LESSON 1.2.1		
Random Sampling		50 minutes
LESSON 1.2.2		
Other Sampling Strategies	Optional	50 minutes
LESSON 1.2.3		
Sources of Bias in Sampling	Optional	50 minutes

Course Timeline

LESSON 1.3.1

Collecting Data by Conducting an Experiment

1 hour 40 minutes

LESSON 1.3.2

Populations, Samples and Subjects

50 minutes

MODULE 2

LESSON 2.1.1

Dotplots, Histograms, and Distributions for Quantitative Data

50 minutes

LESSON 2.1.2

Constructing Histograms for Quantitative Data

50 minutes

LESSON 2.2.1

Quantifying the Center of a Distribution – Sample Mean and Sample Median

50 minutes

LESSON 2.3.1

Quantifying Variability Relative to the Median

1 hour 15 minutes

LESSON 2.4.1

Quantifying Variability Relative to the Mean

1 hour 15 minutes

MODULE 3

LESSON 3.1.1

Introduction to Scatterplots and Bivariate Relationships

1 hour 30 minutes

LESSON 3.1.2

Developing an Intuitive Sense of Form, Direction and Strength of the Relationship Between Two Measurements

50 minutes

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LESSON 3.1.3 Introduction to the Correlation Coefficient and Its Properties		50 minutes
LESSON 3.2.1 Using Lines to Make Prediction		50 minutes
LESSON 3.2.2 Least Squares Regression Line as Line of Best Fit		1 hour 40 minutes
LESSON 3.2.3 Investigating the Meaning of Numbers in the Equation of a Line		50 minutes
LESSON 3.2.4 Special Properties of the Least Squares Regression Line	Optional	50 minutes
LESSON 3.3.1 Using Residuals to Determine If a Line is a Good Fit		1 hour 15 minutes
LESSON 3.3.2 Using Residuals to Determine if a Line is an Appropriate Model	Optional	50 minutes

MODULE 4

LESSON 4.1.1 Investigating Patterns in Data		50 minutes
LESSON 4.1.2 Exponential Models		50 minutes

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MODULE 5

LESSON 5.1.1 An Introduction to Two-Way Tables	50 minutes
LESSON 5.1.2 Marginal, Joint, and Conditional Probabilities from Two-Way Tables	50 minutes
LESSON 5.1.3 Building Two-Way Tables to Calculate Probability	50 minutes

MODULE 6

LESSON 6.1.1 Probability	50 minutes
LESSON 6.1.2 Probability Rules	50 minutes
LESSON 6.1.3 Simulation	Optional 50 minutes
LESSON 6.1.4 Probability Distributions of Discrete Random Variables	50 minutes
LESSON 6.2.1 Probability Distributions of Continuous Random Variables	50 minutes
LESSON 6.2.2 Z-Scores and Normal Distributions	50 minutes

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LESSON 6.2.3 Using Normal Distributions to Find Probabilities and Critical Values	50 minutes
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MODULE 7

LESSON 7.1.1 Sampling Distributions	50 minutes
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LESSON 7.1.2 Reasoning with Sampling Distributions	50 minutes
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50 minutes

LESSON 7.1.3 Confidence Intervals
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LESSON 7.2.1 Testing a Hypothesis	50 minutes
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LESSON 7.2.2 Introduction to Hypothesis Testing	50 minutes
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MODULE 8

LESSON 8.1.1 The Central Limit Theorem for Sample Proportions	50 minutes
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LESSON 8.1.2 Finding Areas Under Sampling Distributions	50 minutes
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LESSON 8.2.1 Intervals for a Population Proportion and the Normal Distribution	50 minutes
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LESSON 8.2.2 Constructing Confidence Intervals for Population Proportions	20 minutes
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LESSON 8.3.1 Hypothesis Tests for Population Proportions	50 minutes
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LESSON 8.3.2 Additional Hypothesis Tests for Population Proportions	50 minutes
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MODULE 9

LESSON 9.1.1 Sampling Distribution of Differences of Two Proportions	50 minutes
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LESSON 9.1.2 Using Technology to Explore the Sampling Distribution of the Differences in Two Proportions	50 minutes
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LESSON 9.2.1 Confidence Intervals for the Difference in Two Population Proportions	50 minutes
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LESSON 9.2.2 Computing and Interpreting Confidence Intervals for the Difference in Two Population Proportions	30 minutes
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LESSON 9.3.1 A Statistical Test for the Difference in Two Population Proportions	30 minutes
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LESSON 9.3.2 Statistical Tests for the Difference Between Two Population Proportions	50 minutes
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MODULE 10

LESSON 10.1.1 Sampling Distribution of Sample Means	50 minutes
LESSON 10.1.2 Central Limit Theorem for Sample Means	50 minutes
LESSON 10.2.1 The T-Distribution and T-Statistics	50 minutes
LESSON 10.2.2 Confidence Intervals for a Population Mean	50 minutes
LESSON 10.3.1 Hypothesis Tests for Population Means	50 minutes
LESSON 10.4.1 Inferences from Paired Samples	50 minutes
LESSON 10.4.2 Hypothesis Tests from Paired Samples	50 minutes
LESSON 10.4.3 Inference from Independent Samples	50 minutes

Course Timeline

MODULE 11

LESSON 11.1.1**Introduction to Chi-Squared Tests for One-Way Tables**

50 minutes

LESSON 11.1.2**Executing the Chi-Square Test for One-Way Tables
(Goodness of Fit)**

50 minutes

LESSON 11.1.3**The Chi-Square Distribution and Degrees of Freedom**

50 minutes

LESSON 11.2.1**Introduction to Chi-Square for Two-Way Tables**

50 minutes

LESSON 11.2.2**Executing the Chi-Square Test for Independence in Two-Way
Tables**

50 minutes

LESSON 11.2.3**The Chi-Square Test for Homogeneity in Two-Way Tables**

50 minutes

Course Timeline

MODULE 12

LESSON 12.1.1 Statistical Models and Exact Mathematical Models of Linear Relationships		25 minutes
LESSON 12.1.2 Mathematical Linear Models		50 minutes
LESSON 12.1.3 Proportional Models		50 minutes
LESSON 12.2.1 Linear Models – Answering Various Types of Questions Algebraically		50 minutes
LESSON 12.2.2 Solving Inequalities		50 minutes
LESSON 12.3.1 Multiple Representations of Exponential Models	Optional	1 hour 40 minutes
LESSON 12.3.2 Power Models	Optional	50 minutes

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